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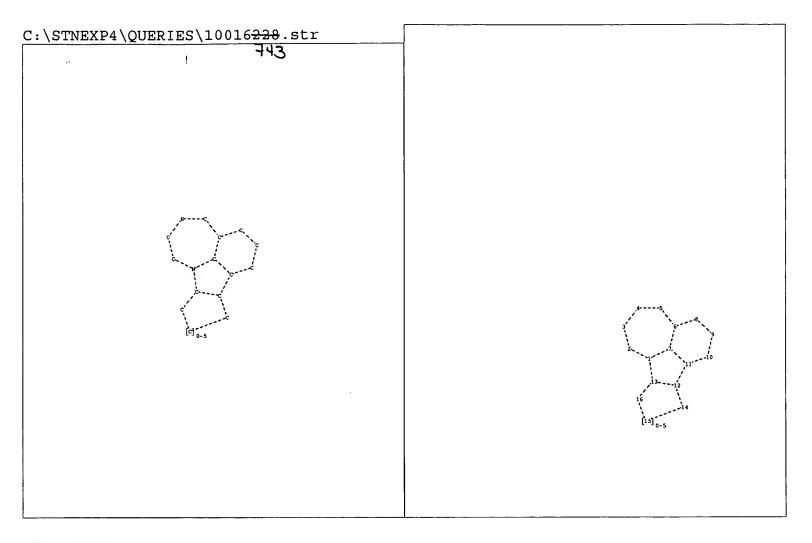
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ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

ring bonds :

1-2 1-7 1-13 2-3 3-4 4-5 5-6 6-7 6-8 7-11 8-9 9-10 10-11

11-12 12-13 12-14 13-16 14-15 15-16

exact/norm bonds :

1-2 1-7 1-13 2-3 3-4 4-5 5-6 6-7 6-8 7-11 8-9 9-10 10-11

11-12 12-13 12-14 13-16 14-15 15-16

Match level:

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom

10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom

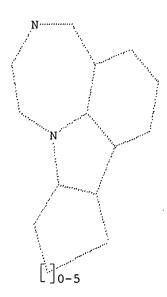
#### => d his

L4

(FILE 'HOME' ENTERED AT 12:49:55 ON 02 AUG 2002)

FILE 'REGISTRY' ENTERED AT 12:50:00 ON 02 AUG 2002 STRUCTURE UPLOADED L1QUE L1 L2 17 S L2 L3 STRUCTURE UPLOADED L4QUE L4 L5 10 S L5 L6 164 S L5 SSS FUL L7 FILE 'CAPLUS' ENTERED AT 12:52:22 ON 02 AUG 2002 20 S L7 L8=> d 15L5 HAS NO ANSWERS

STR



Structure attributes must be viewed using STN Express query preparation. L5 QUE ABB=ON PLU=ON L4

=> d bib abs hitstr 18 1-20

ANSI

ANSWER 1 OF 20 CAPLUS COPYRIGHT 2002 ACS

2002:408673 CAPLUS

DN 137:6202

TI Preparation of cyclopenta[b][1,4]diazepino[6,7,1-hi]indoles as selective 5-HT2c receptor agonists

IN Sabb, Annmarie Louise; Vogel, Robert Lewis; Nelson, James Albert; Rosenzweig-Lipson, Sharon Joy; Welmaker, Gregory Scott; Sabalski, Joan Eileen; Smith, Michael David; Chan, Anita Wai-Yin; Antane, Madelene Miyoko; Raveendranath, Panolil; Megati, Sreenivasulu

PA Wyeth, John, and Brother Ltd., USA

SO PCT Int. Appl., 111 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 5

	PATENT	KIND		DATE			APPLICATION NO.					DATE					
ΡI	WO 2002	WO 2002042304			2	20020530			WO 2001-US45792					20011101			
	W:	ΑE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,
		co,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EC,	EE,	ES,	FI,	GB,	GD,	GE,	GH,
		GM,	HR,	HU,	ID,	IL,	IN,	IS,	JP,	ΚE,	KG,	KP,	KR,	ΚZ,	LC,	LK,	LR,
		LS,	LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MZ,	NO,	NZ,	OM,	PH,
		PL,	PT,	RO,	RU,	SD,	SE,	SG,	SI,	SK,	SL,	ТJ,	TM,	TR,	TT,	ΤZ,	UA,
		UG,	UZ,	VN,	YU,	ZA,	ZW,	AM,	AZ,	BY,	KG,	KΖ,	MD,	RU,	ТJ,	TM	
	RW	GH,	GM,	ΚE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	ŬĠ,	ZW,	AT,	BE,	CH,	CY,
		DE,	DK,	ES,	FI,	FR,	GB,	GR,	IE,	IT,	LU,	MC,	NL,	PT,	SE,	TR,	BF,
		ВJ,	CF,	CG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	NE,	SN,	TD,	TG	
PRAI	US 2000-245591P		P	P 20001103													
	US 200	US 2000-245593P		P	20001103												
	US 2000-245843P P US 2000-245915P P			P		2000	1103										
					20001103												
	US 200	0-245	954P	P		2000	1103										
OS GI	MARPAT	137:	6202														

Ι

ΙI

AB Cyclopenta[b][1,4]diazepino[6,7,1-hi]indoles [I; R = H, alkyl, acyl, alkylcarbonyl, aryl, heteroaryl, arylcarbonyl, heteroarylcarbonyl; Rl, R2 = H, alkyl, fluoroalkyl, cycloalkyl, alkoxy, CH2OH, amino, aryl, heteroaryl, arylcarbonyl, heteroarylcarbonyl, alkylsulfonylamino, alkylaminosulfonyl, etc.; R4, R5 = H, halo, cyano, alkyl, fluoroalkyl, alkoxy, fluoroalkoxy, aryl, heteroaryl, arylcarbonyl, heteroarylcarbonyl, amino, etc.; R6, R7 = H, alkyl, cycloalkyl, cycloalkylmethyl; XY = CHCH,

C:C] are prepd. as selective 5-HT2c agonists for use in the treatment of schizophrenia, obsessive-compulsive disorder, depression, anxiety, panic disorder, generalized anxiety disorder, obesity and epilepsy. Cyclopenta[b]indoles are claimed as intermediates in the prepn. of I. E.g., 2,3,4,5-tetrahydro-1H-benzodiazepine is acetylated with Ac2O to give 4-acetyl-2,3,4,5-tetrahydro-1H-1,4-benzodiazepine; addn. of NaNO2 and HCl, redn. of the nitrosamine with Zn in situ, addn. of cyclopentanone, and hydrolysis of the acetyl group gives hexahydrocyclopenta[b][1,4]diazepino[6.7,1-hi]indole II. Biol. data on the binding of selected I to 5-HT2c receptors is given.

IT 420802-62-6P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(prepn. of cyclopentadiazepinoindoles as selective 5-HT2c receptor agonists for treatment of schizophrenia and anxiety and depression and obesity)

RN 420802-62-6 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,9,10-hexahydro- (9CI) (CA INDEX NAME)

IT 420802-63-7P 422311-95-3P 422311-96-4P 422311-97-5P 422311-98-6P 422311-99-7P

425414-33-1P 425414-34-2P 428868-30-8P

428868-31-9P 428868-32-0P 432049-99-5P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of cyclopentadiazepinoindoles as selective 5-HT2c receptor agonists for treatment of schizophrenia and anxiety and depression and obesity)

RN 420802-63-7 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7a,9,10,10a-octahydro- (9CI) (CA INDEX NAME)

RN 422311-95-3 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7b,9,10,10a-octahydro-2-methyl-, (2S,7bR,10aR)- (9CI) (CA INDEX NAME)

#### 10/016,743

Absolute stereochemistry. Rotation (+).

RN 422311-96-4 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7b,9,10,10a-octahydro-2-methyl-, (2S,7bS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 422311-97-5 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7b,9,10,10a-octahydro-2-methyl-, (2R,7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 422311-98-6 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7b,9,10,10a-octahydro-2-methyl-, (2R,7bS,10aS)- (9CI) (CA INDEX NAME)

RN 422311-99-7 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-2-methanol, 1,2,3,4,7b,9,10,10a-octahydro-, (2R,7bS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 425414-33-1 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7b,9,10,10a-octahydro-4-methyl-, (4R,7bR,10aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

RN 425414-34-2 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,
1,2,3,4,7b,9,10,10a-octahydro-4-methyl-, (4R,7bS,10aS)-rel- (9CI) (CA
INDEX NAME)

Relative stereochemistry.

RN 428868-30-8 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,

3-acetyl-1,2,3,4,7b,9,10,10a-octahydro- (9CI) (CA INDEX NAME)

RN 428868-31-9 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7a,9,10,10a-octahydro-, (7bS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 428868-32-0 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7a,9,10,10a-octahydro-, (7bR,10aR)- (9CI) (CA INDEX NAME)

Page 6

RN 432049-99-5 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,
1,2,3,4,9,10-hexahydro-6-methyl- (9CI) (CA INDEX NAME)

3,4,9,10-tetrahydro- (9CI) (CA INDEX NAME)

RN 420802-85-3 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepin-2(1H)-one,
3,4,9,10-tetrahydro-10-methyl- (9CI) (CA INDEX NAME)

RN 420802-86-4 CAPLUS CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepin-2(1H)-one, 3,4,9,10-tetrahydro-9-methyl- (9CI) (CA INDEX NAME)

RN 420802-87-5 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepin-2(1H)-one, 3,4,9,10-tetrahydro-8-methyl- (9CI) (CA INDEX NAME)

RN 422312-09-2 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-methyl-, (2R,7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 422312-10-5 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-methyl-, (2R,7bS,10aS)- (9CI) (CA INDEX NAME)

RN 428868-33-1 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 3-acetyl-1,2,3,4,7b,9,10,10a-octahydro-, (7bS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 428868-34-2 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 3-acetyl-1,2,3,4,7b,9,10,10a-octahydro-, (7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 428868-35-3 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7b,9,10,10a-octahydro-, monohydrochloride, (7bR,10aR)- (9CI) (CA INDEX NAME)

#### ● HCl

RN 428868-39-7 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,
3-acetyl-1,2,3,4,9,10-hexahydro- (9CI) (CA INDEX NAME)

RN 428868-42-2 CAPLUS

CN Butanedioic acid, 2,3-bis(benzoyloxy)-, (2R,3R)-, compd. with (7bR,10aR)-1,2,3,4,7a,9,10,10a-octahydro-8H-cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine (1:2) (9CI) (CA INDEX NAME)

CM ]

CRN 428868-32-0 CMF C14 H18 N2

Absolute stereochemistry.

CM 2

CRN 2743-38-6 CMF C18 H14 O8 CDES 1:R2:R\*,R\* Absolute stereochemistry.

RN 432050-03-8 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 432050-04-9 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-(hydroxymethyl)-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 432050-07-2 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 3-acetyl-1,2,3,4,7b,9,10,10a-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

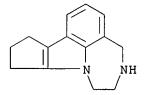
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10/016,743
     ANSWER 2 OF 20 CAPLUS COPYRIGHT 2002 ACS
AM
     2002:392263 CAPLUS
DN
     136:401790
     Processes for preparation of cyclopenta[b][1,4]diazepino[6,7,1-hi]indoles
TI
     Sabb, Annmarie L.; Vogel, Robert L.; Antane, Madelene M.; Raveendranath,
IN
     Panolil; Megati, Sreenivasulu; Smith, Michael D.; Nelson, James A.
     American Home Products Corporation, USA
PA
so
     U.S. Pat. Appl. Publ., 14 pp.
     CODEN: USXXCO
     Patent
DT
     English
LA
FAN.CNT 5
                                           APPLICATION NO.
     PATENT NO.
                      KIND
                            DATE
                                                             DATE
                      ____
    US 2002062022
                            20020523
                                           US 2001-16420
                                                             20011102
                       Α1
PRAI US 2000-245954P
                      Р
                            20001103
```

$$R^4$$
 $R^3$ 
 $R^2$ 
 $R^1$ 
 $R^2$ 
 $R^2$ 

GI

CASREACT 136:401790; MARPAT 136:401790

The title compds. [I; R = H, alkyl; R1, R2 = H, alkyl, alkoxy, halo, etc.; AΒ R3, R4 = H, alkyl, cycloalkyl; the dashed line indicates an optional double bond] and their pharmaceutically acceptable salts, which are serotonin 5-HT2C receptor agonists (no biol. data), were prepd. E.g., a multi-step synthesis of 1,2,3,4,9,10-hexahydro-8Hcyclopenta[b][4,1]diazepino[6,7,1-hi]indole, was given. ΙT 420802-62-6P 428868-30-8P 428868-33-1P 428868-34-2P 428868-39-7P 428868-41-1P 428868-42-2P RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (processes for prepn. of cyclopenta[b][1,4]diazepino[6,7,1-hi]indoles) RN 420802-62-6 CAPLUS CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,9,10-hexahydro- (9CI) (CA INDEX NAME)



RN 428868-30-8 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 3-acetyl-1,2,3,4,7b,9,10,10a-octahydro- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

Absolute stereochemistry. Rotation (-).

RN 428868-39-7 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,
3-acetyl-1,2,3,4,9,10-hexahydro- (9CI) (CA INDEX NAME)

RN 428868-41-1 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,
3-acetyl-1,2,3,4,7b,9,10,10a-octahydro-, monohydrochloride, (7bS,10aS)(9CI) (CA INDEX NAME)

Relative stereochemistry.

● HCl

RN 428868-42-2 CAPLUS
CN Butanedioic acid, 2,3-bis(benzoyloxy)-, (2R,3R)-, compd. with (7bR,10aR)-1,2,3,4,7a,9,10,10a-octahydro-8H-cyclopenta[4,5]pyrrolo[3,2,1-

jk][1,4]benzodiazepine (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 428868-32-0 CMF C14 H18 N2

Absolute stereochemistry.

CM 2

CRN 2743-38-6

#### 10/016,743

CMF C18 H14 O8 CDES 1:R2:R\*,R\*

Absolute stereochemistry.

### IT 428868-29-5P 428868-31-9P 428868-32-0P 428868-35-3P

RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)

(processes for prepn. of cyclopenta[b][1,4]diazepino[6,7,1-hi]indoles)

RN 428868-29-5 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7a,9,10,10a-octahydro-, (7bR,10aR)-rel- (9CI) (CA INDEX NAME)

Relative stereochemistry.

RN 428868-31-9 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7a,9,10,10a-octahydro-, (7bS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

#### 10/016,743

RN 428868-32-0 CAPLUS CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7a,9,10,10a-octahydro-, (7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 428868-35-3 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,
1,2,3,4,7b,9,10,10a-octahydro-, monohydrochloride, (7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

HCl

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ANSWER 3 OF 20 CAPLUS COPYRIGHT 2002 ACS
     2002:368996 CAPLUS
     136:369746
DN
     Preparation of 1,2,3,4,8,9,10,10a-octahydro-7bH-
TI
     cyclopenta[b][1,4]diazepino[6,7,1-hi]indoles
     Welmaker, Gregory S.; Sabalski, Joan E.; Smith, Michael D.
IN
     American Home Products Corporation, USA
PA
SO
     U.S. Pat. Appl. Publ., 13 pp.
     CODEN: USXXCO
DT
     Patent
     English
LA
FAN.CNT 5
                                            APPLICATION NO.
     PATENT NO.
                      KIND
                            DATE
                                                             DATE
     US 2002058689
                       Α1
                            20020516
                                            US 2001-16418
                                                             20011102
PΙ
PRAI US 2000-245843P
                       P
                            20001103
OS
     MARPAT 136:369746
GΙ
```

$$R^{2}$$
 $R^{2}$ 
 $R^{1}$ 
 $R^{2}$ 
 $R^{3}$ 
 $R$ 
 $R^{2}$ 
 $R^{3}$ 
 $R$ 
 $R^{2}$ 
 $R^{3}$ 
 $R$ 

Title compds. I [wherein R = H, alkyl, acyl, aryl, aroyl, or -C(0)R'; R' =AB alkyl or aryl, preferably Ph; R1, R2, R4 and R5 = independently H, OH, (cyclo)alkyl, alkoxy, halo, fluorinated alkyl or alkoxy, CN, alkylsulfonylamino, alkylsulfonamido, alkylamido, (di)alkyl(amino), acyl, aryl, or aroyl; R3 = H, (cyclo)alkyl, alkoxy, fluorinated alkyl, alkylsulfonylamino, alkylsulfonamido, alkylamido, (di)alkyl(amino), fluorinated alkoxy, acyl, aryl, or aroyl; or a pharmaceutically acceptable salt thereof] were prepd. from 2-(2,3,3a,8b-tetrahydro-1Hcyclopenta[b]indol-4-yl)ethylamines. For example, Ph hydrazine was treated with cyclopentanone under std. Fischer-indole conditions to give 1,2,3,4-tetrahydrocyclopenta[b]indole (80%). Hydrogenation using Pd/C in concd. HCl (69%), followed by N-alkylation with 2-chloroacetamide (69%), and redn. using BH3.bul.THF, afforded 2-(2,3,3a,8btetrahydrocyclopenta[b]indol-4(1H)-yl)ethylamine. Cycloaddn. of the ethylamine with formaldehyde in EtOH and TFA gave the diazabenzo[cd]cyclopenta[a]azulene I (R-R5 = H). I are 5-hydroxytryptamine 2C (5HT2C) receptor agonists useful for the prevention and treatment of central nervous system disorders (no data). IT 420802-63-7P 425414-33-1P 425414-34-2P RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of octahydrocyclopenta[b][1,4]diazepino[6,7,1-hi]indoles from (tetrahydrocyclopentaindolyl)ethylamines as central nervous system

RN

agents)

420802-63-7 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7a,9,10,10a-octahydro- (9CI) (CA INDEX NAME)

RN 425414-33-1 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,
1,2,3,4,7b,9,10,10a-octahydro-4-methyl-, (4R,7bR,10aR)-rel- (9CI) (CA
INDEX NAME)

Relative stereochemistry.

Relative stereochemistry.

ANSWER 4 OF 20 CAPLUS COPYRIGHT 2002 ACS

2002:354096 CAPLUS

DN 136:355364

TI Preparation of cyclopenta[b][1,4]diazepino[6,7,1-hi]indole derivatives for the treatment of central nervous system disorders

IN Welmaker, Gregory S.; Sabalski, Joan E.

PA American Home Products Corporation, USA

SO U.S. Pat. Appl. Publ., 11 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 5

KIND APPLICATION NO. DATE PATENT NO. DATE \_\_\_\_ US 2001-16435 20011102 US 2002055630 Α1 20020509 PΙ US 6414144 В2 20020702 PRAI US 2000-245915P P 20001103 CASREACT 136:355364; MARPAT 136:355364 GI

AB Cyclopenta[b][1,4]diazepino[6,7,1-hi]indole derivs. of formula I [R = H, alkyl, acyl, or aroyl; R1, R2, R4, R5 = H, OH, alkyl, cycloalkyl, alkoxy, halo, fluorinated alkyl, CN, NHSO2-alkyl, amino, aryl, aroyl, etc.; R3 = H, alkyl, cycloalkyl, alkoxy, etc.] are prepd. The compds. are useful in the treatment of central nervous system disorders (no data). Thus, II was prepd. in 6 steps from 2-hydrazinobenzoic acid hydrochloride, cyclopentanone and L-alanine Et ester.

IT 422311-95-3P 422311-96-4P 422311-97-5P

Ι

422311-98-6P 422311-99-7P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of cyclopenta[b][1,4]diazepino[6,7,1-hi]indole derivs. for the treatment of central nervous system disorders)

II

RN 422311-95-3 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7b,9,10,10a-octahydro-2-methyl-, (2S,7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

Absolute stereochemistry. Rotation (+).

RN 422311-97-5 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,
1,2,3,4,7b,9,10,10a-octahydro-2-methyl-, (2R,7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

RN 422311-99-7 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-2-methanol, 1,2,3,4,7b,9,10,10a-octahydro-, (2R,7bS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

### IT 422312-04-7P 422312-05-8P 422312-09-2P 422312-10-5P 422312-15-0P 422312-16-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of cyclopenta[b][1,4]diazepino[6,7,1-hi]indole derivs. for the treatment of central nervous system disorders)

RN 422312-04-7 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-methyl-, (2S,7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 422312-05-8 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-methyl-, (2S,7bS,10aS)- (9CI) (CA INDEX NAME)

RN 422312-09-2 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-methyl-, (2R,7bR,10aR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 422312-10-5 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-methyl-, (2R,7bS,10aS)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 422312-15-0 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1;4]benzodiazepine-1,4-dione, 2,3,7b,9,10,10a-hexahydro-2-(hydroxymethyl)-, (2S,7bR,10aR)- (9CI) (CA INDEX NAME)

RN 422312-16-1 CAPLUS
CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine-1,4-dione,
2,3,7b,9,10,10a-hexahydro-2-(hydroxymethyl)-, (2S,7bS,10aS)- (9CI) (CA
INDEX NAME)

ANSWER 5 OF 20 CAPLUS COPYRIGHT 2002 ACS 2002:354075 CAPLUS DN 136:355253 Process for the preparation of 1,2,3,4,8,9,10,10a-octahydro-7bH-TI cyclopenta[b][1,4]diazepino[6,7,1-hi]indole derivatives IN Chan, Anita W-y. PA U.S. Pat. Appl. Publ., 16 pp. SO CODEN: USXXCO Patent DT English LΑ FAN.CNT 5 PATENT NO. KIND DATE APPLICATION NO. DATE PΤ US 2002055504 **A1** 20020509 US 2001-16229 20011102 PRAI US 2000-245591P Ρ 20001103 OS CASREACT 136:355253; MARPAT 136:355253 GΙ

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AΒ This invention provides a process for the prepn. of 1,2,3,4,8,9,10,10aoctahydro-7bH-cyclopenta[b][1,4]diazepino[6,7,1-hi]indole derivs. of the general formula (I) (wherein R = H, alkyl, cycloalkyl, CH2-cycloalkyl, acyl, aryl or aroyl; R1, R2, R4, R5 = H, hydroxy, alkyl, cycloalkyl, alkoxy, halogen, fluorinated alkyl, cyano, NHSO2-alkyl, SO2NH-alkyl, alkyl amide, amino, alkylamino, dialkylmino, fluorinated alkoxy, acyl, aryl or aroyl; R3 = H, alkyl, cycloalkyl, alkoxy, fluorinated alkyl, alkyl sulfonamide, alkyl amide, amino, alkylamino, dialkylmino, fluorinated alkoxy, acyl, aryl or aroyl) or a pharmaceutically acceptable salt thereof, as well as intermediates for their synthesis. A process for prepn. of I comprises acylation of cyclopentaindolemethylamine derivs. (II; R = H; R1, R2, R4, R5 = same as above) with LCOCH(R3)L (R3 = same as above; L = a leaving group), cyclization of the resulting II [R = COCH(R3)L; L, R1, R2, R4, R5 = same as above] to diazabenzo[cd]cyclopenta[a]azulen-6-one derivs. (III; R1-R5 = same as above), and redn. of III to II (R = H; R1-R5 = same as above), followed by optional N-alkylation. These compds. are useful as serotonin 5-hydroxytryptamine 2C (5HT2C) receptor agonists for the treatment of central nervous system disorders, including obsessive-compulsive disorder, depression, anxiety, generalized anxiety disorder, schizophrenia, panic disorder, migraine, sleep disorders such as sleep apnea, eating disorders such as hyperphagia, obesity, epilepsy, and spinal cord injury (no data). Thus, a soln. of 1,2,3,4-tetrahydrocyclopenta[b]indol-5-ylmethylamine (100 mg) and pyridine (0.1 mL) in CH2Cl2 (2 mL) was cooled to 0-5.degree. in an ice-bath, treated with chloroacetyl chloride (62 .mu.L), stirred in the ice-bath for 1 h, warmed to room temp., and stirred for 12 h to give 57% 2-chloro-N-[1,2,3,4-tetrahydrocyclopenta[b]indol-5-ylmethyl]acetamide (IV). A soln. of IV (135 mg) in DMF (3 mL) was added to a suspension of NaH (124 mg) in DMF (3 mL) and allowed to react for 16 h to give 58% 3,4,9,10-tetrahydro-8H-cyclopenta[b][1,4]diazepino[6,7,1-hi]indol-2(1H)-one (V). To a suspension of 67 mg V in 7 mL Et20 was added slowly 28 mg LiAlH4 at room temp. and allowed to react for 16 h to give 70% 3,4,9,10-tetrahydro-8H-cyclopenta[b][4]diazepino[6,7,1-hi]indole, i.e. I (R-R5 = H), which (61 mg) was dissolved in CF3CO2H (2 mL), cooled in an ice-bath, treated slowly with BH3.THF (0.7 mL), and allowed to react for 4 h to give 1,2,3,4,8,9,10,10a-octahydro-7bH-cyclopenta[b][4,1]diazepino[6,7,1-hi]Indole.

IT 420802-63-7P 420802-85-3P 420802-86-4P 420802-87-5P

RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(prepn. of octahydrocyclo[b][1,4]diazepino[hi]indoles via N-acylation of tetrahydrocyclopentaindolylmethylamines and cyclization of (acylaminomethyl)tetrahydrocyclopentaindoles to

tetrahydrocyclopenta[b][1,4]diazepino[6,7,1-hi]indolones)

RN 420802-63-7 CAPLUS

8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7a,9,10,10a-octahydro- (9CI) (CA INDEX NAME)

CN

RN 420802-85-3 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepin-2(1H)-one, 3,4,9,10-tetrahydro-10-methyl- (9CI) (CA INDEX NAME)

RN 420802-86-4 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepin-2(1H)-one, 3,4,9,10-tetrahydro-9-methyl- (9CI) (CA INDEX NAME)

RN 420802-87-5 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepin-2(1H)-one, 3,4,9,10-tetrahydro-8-methyl- (9CI) (CA INDEX NAME)

IT 420802-61-5P 420802-62-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of octahydrocyclo[b][1,4]diazepino[hi]indoles via N-acylation of tetrahydrocyclopentaindolylmethylamines and cyclization of (acylaminomethyl)tetrahydrocyclopentaindoles to

tetrahydrocyclopenta[b][1,4]diazepino[6,7,1-hi]indolones)

RN 420802-61-5 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepin-2(1H)-one, 3,4,9,10-tetrahydro- (9CI) (CA INDEX NAME)

RN 420802-62-6 CAPLUS

CN 8H-Cyclopenta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,9,10-hexahydro- (9CI) (CA INDEX NAME)

Page 28

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T8
       ANSWER 6 OF 20 CAPLUS COPYRIGHT 2002 ACS
 AN
       2002:353459 CAPLUS
×(DN
       136:355252
       Preparation of diazepinocarbazoles and related compounds as serotonin
       5-HT2C agonists.
       Sabb, Annmarie Louise; Vogel, Robert Lewis; Welmaker, Gregory Scott;
       Sabalski, Joan Eileen
       Wyeth, John, and Brother Ltd., USA
       PCT Int. Appl., 47 pp.
       CODEN: PIXXD2
 DT
       Patent
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       English
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       PATENT NO.
                          KIND DATE
                                                 APPLICATION NO.
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 PΙ
       WO 2002036596
                         A2
                                20020510
                                                 WO 2001-US46084 20011101
           W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
                CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
                GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
                LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
                PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA,
                UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
           RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
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                                20020704
                                                 US 2001-17738 20011102
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 PRAI US 2000-245598P
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                                20001103
       US 2000-245599P
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                                20001103
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       US 2000-245602P
                                20001103
       MARPAT 136:355252
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AB A method of treatment of obsessive-compulsive disorder, obesity, eating disorders, sleeping disorders, migraine, depression, generalized anxiety disorder, schizophrenia, panic disorder, migraine, epilepsy or anxiety in a mammal, the method comprises administration of title compds. (I; A = 6-8 membered cycloalkyl ring; R1, R2 = H, alkyl, cycloalkyl, cycloalkylmethyl, alkoxy, halo, fluoroalkyl, cyano, alkylaminosulfonyl, amino, fluoroalkoxy, aroyl, heteroaroyl etc.; R3-R6 = H, alkyl, cycloalkyl, cycloalkylmethyl, alkoxy, cycloalkoxy; R7, R8 = H, alkyl; dashed line = optional double bond). Thus, 4-acetyl-2,3,4,5-tetrahydro-1H-1,4-benzodiazepine (prepn. given) in aq. HCl was treated with NaNO2 under ice cooling to give an oil which in HOAc was treated with Zn. The resulting mixt. was filtered into a flask contg. cyclohexanone followed by heating for 1.5 h to give 3-acetyl-1,2,3,4,8,9,10,11-octahydro[1,4]diazepino[6,7,1-jk]carbazole.

#### 10/016,743

The latter was refluxed 4 h with conc. HCl to give 1,2,3,4,8,9,10,11-octahydro[1,4]diazepino[6,7,1-jk]carbazole hydrochloride. This reduced food intake in rats with ED50 = 20.86 mg/kg i.p.

IT 57716-82-2P 57756-44-2P 57756-45-3P 57756-54-4P 59705-12-3P 422318-14-7P 422318-15-8P 422318-16-9P 422318-17-0P 422318-18-1P 422318-19-2P 422318-20-5P 422318-21-6P 422318-22-7P 422318-23-8P 422318-24-9P 422318-25-0P 422318-26-1P 422318-27-2P 422318-28-3P 422318-29-4P 422318-30-7P 422318-33-0P

RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of diazepinocarbazoles and related compds. as serotonin 5HT2C agonists)

RN 57716-82-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 6-chloro-3-ethyl-1,2,3,4,8,9,10,11-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

#### ● HCl

RN 57756-44-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

#### ● HCl

RN 57756-45-3 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

RN 57756-54-4 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 6-chloro-3-ethyl-1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

RN 59705-12-3 CAPLUS

CN [1,4] Diazepino[6,7,1-jk] carbazole, 6-chloro-1,2,3,4,8,9,10,11-octahydro-(9CI) (CA INDEX NAME)

RN 422318-14-7 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,7b,8,9,10,11,11a-decahydro-(9CI) (CA INDEX NAME)

RN 422318-15-8 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-8,8,10,10-tetramethyl- (9CI) (CA INDEX NAME)

RN 422318-16-9 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-9,9-dimethyl- (9CI) (CA INDEX NAME)

RN 422318-17-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-6-methyl-(9CI) (CA INDEX NAME)

RN 422318-18-1 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-2-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 422318-19-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-2-methyl-,

10/016,743

(2R) - (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 422318-20-5 CAPLUS

CN 8H-Cyclohepta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,9,10,11,12-octahydro- (9CI) (CA INDEX NAME)

RN 422318-21-6 CAPLUS

CN 8H-Cyclohepta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,7b,9,10,11,12,12a-decahydro- (9CI) (CA INDEX NAME)

RN 422318-22-7 CAPLUS

CN Cycloocta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,8,9,10,11,12,13-decahydro- (9CI) (CA INDEX NAME)

RN 422318-23-8 CAPLUS

CN Cycloocta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine,

#### 10/016,743

1,2,3,4,7b,8,9,10,11,12,13,13a-dodecahydro- (9CI) (CA INDEX NAME)

RN 422318-24-9 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,7b,8,9,10,11,11a-decahydro-, dihydrochloride (9CI) (CA INDEX NAME)

#### •2 HCl

RN 422318-25-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-8,8,10,10-tetramethyl-, monohydrochloride (9CI) (CA INDEX NAME)

#### ● HCl

RN 422318-26-1 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-9,9-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)

### HCl

RN 422318-27-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 6-chloro-1,2,3,4,8,9,10,11-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

### HCl

RN 422318-28-3 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-6-methyl-, monohydrochloride (9CI) (CA INDEX NAME)

#### HCl

RN 422318-29-4 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-2-methyl-, monohydrochloride, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

● HCl

RN 422318-30-7 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-2-methyl-, monohydrochloride, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

HCl

RN 422318-33-0 CAPLUS

CN Cycloocta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 1,2,3,4,8,9,10,11,12,13-decahydro-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

IT 57756-41-9P 57756-42-0P 422318-34-1P

422318-37-4P 422318-41-0P 422318-44-3P

422318-45-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. of diazepinocarbazoles and related compds. as serotonin 5HT2C agonists)

RN 57756-41-9 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4,8,9,10,11-octahydro-(9CI) (CA INDEX NAME)

RN 57756-42-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-6-chloro-1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

RN 422318-34-1 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4,8,9,10,11-octahydro-8,8,10,10-tetramethyl- (9CI) (CA INDEX NAME)

RN 422318-37-4 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4,8,9,10,11-octahydro-6-methyl- (9CI) (CA INDEX NAME)

RN 422318-41-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4,8,9,10,11-octahydro-2-methyl-, (2S)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

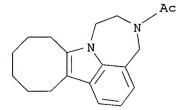
RN 422318-44-3 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4,8,9,10,11-octahydro-2-methyl-, (2R)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 422318-45-4 CAPLUS

CN Cycloocta[4,5]pyrrolo[3,2,1-jk][1,4]benzodiazepine, 3-acetyl-1,2,3,4,8,9,10,11,12,13-decahydro-(9CI) (CA INDEX NAME)



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ANSWER 7 OF 20 CAPLUS COPYRIGHT 2002 ACS

2001:453066 CAPLUS

TI Preparation of 11H,12H,14H-pyrrolo[3,4-c]quinolino[8',8a',1':3,2,1]-pyrrolo[2,3-a]carbazole-5,7-diones for the treatment of proliferative diseases

IN Al-Awar, Rima Salim; Hecker, Kyle Andrew; Huang, Jianping; Joseph, Sajan; Li, Tiechao; Paal, Michael; Rathnachalam, Radhakrishnan; Ray, James Edward; Shih, Chuan; Waid, Philip Parker; Zhou, Xun; Zhu, Guoxin

PA Eli Lilly and Company, USA

SO PCT Int. Appl., 261 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

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PATENT NO.
                       KIND DATE
                                              APPLICATION NO. DATE
     WO 2001044247
                        A2
                              20010621
                                              WO 2000-US33273 20001218
PI
                       A3
     WO 2001044247
                              20020103
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              LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
              SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
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         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
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PRAI US 1999-171087P
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     US 1999-171220P
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                              19991216
     CASREACT 135:61239; MARPAT 135:61239
OS
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- \* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY AVAILABLE VIA OFFLINE PRINT \*
- The title compds. [I; A, B = O, S; X, Y = H; or X and Y, taken together, form a bond; R1 = H, alkyl; R2 = halo, CN, alkyl, etc.; R3 = aryl, heteroaryl, etc.; R4 = H, alkyl, etc.; R5 = halo, CN, alkyl, etc.; R6 = alkyl; R7 = alkoxycarbonyl, (CH2)mZ (m = 0-5; Z = halo, OH, etc.); Q1 = O, SOn (n = 0-2), (CH2)1-3; Q2 = carbon-carbon single or double bond, etc.; Q3 = (CH2)1-3], useful for inhibiting CDK4, were prepd. and formulated. E.g., a multi-step synthesis of II which showed activity (0.1055 .mu.M) in assay of cyclin D1-CDK4 kinase with the ING peptide as substrate, and also was found to inhibit cell growth and Rb (retinoblastoma protein) phosphorylation, was given.
- IT 345261-34-9P 345262-55-7P 345262-56-8P 345262-59-1P 345262-63-7P 345262-82-0P 345262-85-3P 345262-98-8P 345263-00-5P 345263-02-7P 345263-06-1P 345263-22-1P 345263-25-4P 345263-28-7P 345263-32-3P 345263-34-5P 345263-38-9P 345263-44-7P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

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(prepn. of 11H, 12H, 14H-pyrrolo[3, 4-c] quinolino[8', 8a', 1':3,2,1]-
        pyrrolo[2,3-a]carbazole-5,7-diones for the treatment of proliferative
        diseases)
     345261-34-9 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-2-propanoic
CN
     acid, 3-[(1,1-dimethylethoxy)carbonyl]-1,2,3,4,8,9,10,15-octahydro-8,10-
     dioxo-, 1,1-dimethylethyl ester, (2S)- (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345262-55-7 CAPLUS
RN
     [1,4] Diazepino [6,7,1-jk] indolo [2,3-a] pyrrolo [3,4-c] carbazole -3(4H) -
CN
     carboxylic acid, 2-[(1,1-dimethylethoxy)methyl]-1,2,8,9,10,15-hexahydro-
     8,10-dioxo-, 1,1-dimethylethyl ester, (2R)- (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345262-56-8 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 2-[(1,1-dimethylethoxy)methyl]-1,2,3,4-tetrahydro-,
    monohydrochloride, (2R) - (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     345262-59-1 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-3(4H)-
CN
     carboxylic acid, 1,2,8,9,10,15-hexahydro-2-methyl-8,10-dioxo-,
     1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345262-63-7 CAPLUS
RN
     [1,4] Diazepino [6,7,1-jk] indolo [2,3-a] pyrrolo [3,4-c] carbazole -3(4H) -
CN
     carboxylic acid, 1,2,8,9,10,15-hexahydro-2-[(4-hydroxyphenyl)methyl]-8,10-
     dioxo-, 1,1-dimethylethyl ester, (2S)- (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     345262-82-0 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-3(4H)-
CN
     carboxylic acid, 1,2,8,9,10,15-hexahydro-8,10-dioxo-, 1,1-dimethylethyl
     ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345262-85-3 CAPLUS
RN
CN
     [1,4] Diazepino [6,7,1-jk] indolo [2,3-a] pyrrolo [3,4-c] carbazole -3(4H) -
     carboxylic acid, 13-fluoro-1,2,8,9,10,15-hexahydro-8,10-dioxo-,
     1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345262-98-8 CAPLUS
RN
     [1,4] Diazepino [6,7,1-jk] indolo [2,3-a] pyrrolo [3,4-c] carbazole-3 (4H)-
CN
     carboxylic acid, 2-[4-[[(1,1-dimethylethoxy)carbonyl]methylamino]butyl]-
     1,2,8,9,10,15-hexahydro-8,10-dioxo-, 1,1-dimethylethyl ester, (2S)- (9CI)
     (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     345263-00-5 CAPLUS
CN
     Carbamic acid, [(1S)-2-(1,2,8,9,10,15-hexahydro-2-methyl-8,10-
     dioxo[1,4]diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazol-3(4H)-yl)-
     1-methyl-2-oxoethyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
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345263-02-7 CAPLUS
RN
    Carbamic acid, [(1S)-2-(1,2,8,9,10,15-hexahydro-2-methyl-8,10-
CN
    dioxo[1,4]diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazol-3(4H)-yl)-
    2-oxo-1-(3-pyridinylmethyl)ethyl]-, 1,1-dimethylethyl ester (9CI) (CA
    INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345263-06-1 CAPLUS
    Carbamic acid, [(1S)-2-(1,2,8,9,10,15-hexahydro-8,10-
CN
    dioxo[1,4]diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazol-3(4H)-yl)-
    2-oxo-1-(3-pyridinylmethyl)ethyl]-, 1,1-dimethylethyl ester (9CI) (CA
    INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345263-22-1 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-3(4H)-
CN
     carboxylic acid, 1,2,8,9,10,15-hexahydro-15-methyl-8,10-dioxo-,
    1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
    345263-25-4 CAPLUS
CN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-3(4H)-
     carboxylic acid, 1,2,8,9,10,15-hexahydro-8,10-dioxo-12-phenoxy-,
    1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345263-28-7 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-3(4H)-
CN
     carboxylic acid, 12,13-difluoro-1,2,8,9,10,15-hexahydro-8,10-dioxo-,
    1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
    345263-32-3 CAPLUS
     [1,4] Diazepino [6,7,1-jk] indolo [2,3-a] pyrrolo [3,4-c] carbazole -3(4H) -
CN
    carboxylic acid, 1,2,8,9,10,15-hexahydro-8,10-dioxo-13-(trifluoromethyl)-,
    1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345263-34-5 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-3(4H)-
CN
    carboxylic acid, 12-fluoro-1,2,8,9,10,15-hexahydro-8,10-dioxo-,
    1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345263-38-9 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-3(4H)-
CN
     carboxylic acid, 1,2,8,9,10,15-hexahydro-8,10-dioxo-14-[2-[[tris(1-
    methylethyl)silyl]oxy]ethyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX
    NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
    345263-44-7 CAPLUS
    Carbamic acid, [2-(1,2,8,9,10,15-hexahydro-8,10-dioxo[1,4]diazepino[6,7,1-
CN
     jk]indolo[2,3-a]pyrrolo[3,4-c]carbazol-3(4H)-yl)-2-oxoethyl]-,
    1,1-dimethylethyl ester (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345262-57-9P 345262-60-4P 345262-64-8P
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345262-83-1P 345262-86-4P 345262-99-9P
    345263-01-6P 345263-03-8P 345263-05-0P
    345263-07-2P 345263-08-3P 345263-09-4P
    345263-10-7P 345263-11-8P 345263-12-9P
    345263-23-2P 345263-26-5P 345263-29-8P
    345263-33-4P 345263-35-6P 345263-39-0P
    345263-40-3P 345263-41-4P 345263-42-5P
    345263-43-6P 345263-45-8P 345263-91-4P
    345263-93-6P 345263-96-9P
    RL: BAC (Biological activity or effector, except adverse); BSU (Biological
    study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
    BIOL (Biological study); PREP (Preparation); USES (Uses)
        (prepn. of 11H, 12H, 14H-pyrrolo[3, 4-c]quinolino[8',8a',1':3,2,1]-
       pyrrolo[2,3-a]carbazole-5,7-diones for the treatment of proliferative
       diseases)
    345262-57-9 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
    dione, 1,2,3,4-tetrahydro-2-(hydroxymethyl)-, monohydrochloride, (2R)-
     (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345262-60-4 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
    dione, 1,2,3,4-tetrahydro-2-methyl-, monohydrochloride (9CI) (CA INDEX
    NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345262-64-8 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
    dione, 1,2,3,4-tetrahydro-2-[(4-hydroxyphenyl)methyl]-, monohydrochloride,
     (2S) - (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345262-83-1 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
    dione, 1,2,3,4-tetrahydro-, monohydrochloride (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345262-86-4 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
    dione, 13-fluoro-1,2,3,4-tetrahydro-, monohydrochloride (9CI) (CA INDEX
    NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
    345262-99-9 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
    dione, 1,2,3,4-tetrahydro-2-[4-(methylamino)butyl]-, dihydrochloride,
     (2S) - (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
    345263-01-6 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
    dione, 3-[(2S)-2-amino-1-oxopropyl]-1,2,3,4-tetrahydro-2-methyl-,
    monohydrochloride (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     345263-03-8 CAPLUS
CN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
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dione, 3-[(2S)-2-amino-1-oxo-3-(3-pyridinyl)propyl]-1,2,3,4-tetrahydro-2-
     methyl-, dihydrochloride (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-05-0 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 3-[(2S)-2,6-diamino-1-oxohexyl]-1,2,3,4-tetrahydro-2-methyl-,
     dihydrochloride (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     345263-07-2 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 3-[(2S)-2-amino-1-oxo-3-(3-pyridinyl)propyl]-1,2,3,4-tetrahydro-,
     dihydrochloride (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-08-3 CAPLUS
RN
     11H, 13H, 15H-Indolo[2, 3-a] oxazolo[4', 3':3, 4][1, 4] diazepino[6, 7, 1-
CN
     jk]pyrrolo[3,4-c]carbazole-5,7,13(6H,18H)-trione, 15a,16-dihydro-, (15aR)-
     (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     345263-09-4 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-3-(methylsulfonyl)-2-
     [[(methylsulfonyl)oxy]methyl]-, (2R)- (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-10-7 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-2-(hydroxymethyl)-3-(4-pyridinylcarbonyl)-,
     (2R) - (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-11-8 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-2-propanoic
CN
     acid, 1,2,3,4,8,9,10,15-octahydro-8,10-dioxo-, methyl ester,
     monohydrochloride, (2S) - (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-12-9 CAPLUS
RN
CN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-2-propanoic
     acid, 1,2,3,4,8,9,10,15-octahydro-8,10-dioxo-, monohydrochloride, (2S)-
     (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-23-2 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-15-methyl-, monohydrochloride (9CI) (CA INDEX
     NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
     345263-26-5 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-12-phenoxy-, monohydrochloride (9CI) (CA INDEX
     NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
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345263-29-8 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 12,13-difluoro-1,2,3,4-tetrahydro-, monohydrochloride (9CI) (CA
     INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
    345263-33-4 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-13-(trifluoromethyl)-, monohydrochloride (9CI)
     (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 345263-35-6 CAPLUS
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 12-fluoro-1,2,3,4-tetrahydro-, monohydrochloride (9CI) (CA INDEX
     NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-39-0 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-14-(2-hydroxyethyl)-, monohydrochloride (9CI)
     (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-40-3 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-3-(methylsulfonyl)- (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-41-4 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-3-[(1-methyl-1H-imidazol-4-yl)sulfonyl]-,
     monohydrochloride (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-42-5 CAPLUS
RN
CN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
     dione, 1,2,3,4-tetrahydro-3-(1-methylethyl)- (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
     345263-43-6 CAPLUS
RN
     [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
     dione, 1,2,3,4-tetrahydro-3-(1-methylethyl)-, monomethanesulfonate (9CI)
     (CA INDEX NAME)
     CM
          1
     CRN 345263-42-5
     CMF C26 H22 N4 O2
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
          2
     CM
     CRN 75-75-2
     CMF C H4 O3 S
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0
HO-S-CH3
       0
RN
          345263-45-8 CAPLUS
          [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
          dione, 3-(aminoacetyl)-1,2,3,4-tetrahydro-, monohydrochloride (9CI) (CA
          INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
          345263-91-4 CAPLUS
RN
          [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
          dione, 1,2,3,4-tetrahydro-14-(3-hydroxypropyl)-, monohydrochloride (9CI)
          (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
          345263-93-6 CAPLUS
RN
          [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
          dione, 1,2,3,4-tetrahydro-13-(3-hydroxypropyl)-, monohydrochloride (9CI)
          (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
          345263-96-9 CAPLUS
          [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
          dione, 1,2,3,4-tetrahydro-14-(hydroxymethyl)-, monohydrochloride (9CI)
          (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
          345265-34-1 345265-35-2 345265-36-3
TT
          345265-37-4 345265-38-5
          RL: RCT (Reactant); RACT (Reactant or reagent)
                 (prepn. of 11H, 12H, 14H-pyrrolo[3, 4-c]quinolino[8', 8a', 1':3, 2, 1]-
                pyrrolo[2,3-a]carbazole-5,7-diones for the treatment of proliferative
                diseases)
          345265-34-1 CAPLUS
RN
          [1,4] Diazepino [6,7,1-jk] indolo [2,3-a] pyrrolo [3,4-c] carbazole -8,10 (9H,15H) -
CN
          dione, 1,2,3,4-tetrahydro-2-methyl- (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
          345265-35-2 CAPLUS
RN
          Carbamic acid, [(1S)-1-[(1,2,8,9,10,15-hexahydro-2-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-methyl-8,10-m
CN
          dioxo[1,4]diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazol-3(4H)-
          yl)carbonyl]-1,5-pentanediyl]bis-, bis(1,1-dimethylethyl) ester (9CI) (CA
          INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
          345265-36-3 CAPLUS
RN
           [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-
CN
          dione, 1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN
          345265-37-4 CAPLUS
          [1,4] Diazepino [6,7,1-jk] indolo [2,3-a] pyrrolo [3,4-c] carbazole -3(4H) -
CN
```

carboxylic acid, 1,2,8,9,10,15-hexahydro-2-(hydroxymethyl)-8,10-dioxo-,

1,1-dimethylethyl ester, (2R)- (9CI) (CA INDEX NAME)

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*** STRUCTURE DIAGRAM IS NOT AVAILABLE *** RN 345265-38-5 CAPLUS
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CN [1,4]Diazepino[6,7,1-jk]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H,15H)-dione, 1,2,3,4-tetrahydro-2-(hydroxymethyl)-, (2R)- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

```
ANSWER 8 OF 20 CAPLUS COPYRIGHT 2002 ACS
    2001:453056 CAPLUS
     135:61238
DN
     Preparation of maleimide and carbazole derivatives for the treatment of
TI
     proliferative diseases
     Al-Awar, Rima Salim; Hecker, Kyle Andrew; Huang, Jianping; Joseph, Sajan;
IN
     Ray, James Edward; Waid, Philip Parker
     Eli Lilly and Company, USA
PA
     PCT Int. Appl., 110 pp.
SO
     CODEN: PIXXD2
\mathbf{DT}
     Patent
     English
LА
FAN.CNT 1
                                           APPLICATION NO. DATE
     PATENT NO.
                      KIND DATE
                                           _____
     ______
                      ____
                      A2
                            20010621
                                           WO 2000-US33274 20001218
     WO 2001044235
ΡI
     WO 2001044235
                     A3
                            20020117
            AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
             HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,
             LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
             SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
             YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
             DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
             BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRAI US 1999-171219P
                     P
                           19991216
     US 1999-171269P
                      P
                            19991216
OS
    MARPAT 135:61238
GΙ
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *
     The title compds. [I; A, B = O, S; X, Y = H; or X and Y, taken together,
AB
     form a bond; R1 = H, alkyl; R5, R51 = halo, CN, alkyl, etc.; R6, R61 =
     alkyl; R7, R71 = alkoxycarbonyl, (CH2)mZ; Z = halo, OH, CO2H, etc.; Q1, Q6
     = 0, SOn, (CH2)1-3; Q2, Q5 = carbon-carbon single or double bond, NH,
     etc.; Q3, Q4 = (CH2)1-3; m = 0-5; n = 0-2], useful for inhibiting CDK4,
     were prepd. and formulated. E.g., a multi-step synthesis of II.HCl which
     showed activity (0.6051 .mu.M) in assay of cyclin D1-cdk4 kinase with the
     ING peptide as substrate, was given. Some of compds. I were found to
     inhibit cell growth and to inhibit Rb (retinoblastoma protein)
     phosphorylation.
ΙT
     345333-99-5P 345334-05-6P 345334-17-0P
     345334-29-4P
     RL: BAC (Biological activity or effector, except adverse); BSU (Biological
     study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use);
     BIOL (Biological study); PREP (Preparation); USES (Uses)
        (prepn. of maleimide and carbazole derivs. for the treatment of
        proliferative diseases)
     345333-99-5 CAPLUS
RN
CN
     8H,14H-[1,4]Diazepino[6,7,1-jk]pyrido[1',2',3':1,7]indolo[2,3-
     a]pyrrolo[3,4-c]carbazole-8,10(9H)-dione, 1,2,3,4,15,16-hexahydro-,
     monohydrochloride (9CI) (CA INDEX NAME)
```

HCl

RN 345334-05-6 CAPLUS
CN 8H,14H-[1,4]Diazepino[6,7,1-jk]pyrido[1',2',3':1,7]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H)-dione, 1,2,3,4,15,16-hexahydro-15,15-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)

● HCl

RN 345334-17-0 CAPLUS CN 8H,14H-[1,4]Diazepino[6,7,1-jk]pyrido[1',2',3':1,7]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H)-dione, 12-fluoro-1,2,3,4,15,16-hexahydro-14,14-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)

● HCl

RN 345334-29-4 CAPLUS CN 8H,14H-[1,4]Diazepino[6,7,1-jk]pyrido[1',2',3':1,7]indolo[2,3-a]pyrrolo[3,4-c]carbazole-8,10(9H)-dione, 1,2,3,4,15,16-hexahydro-14,14-dimethyl-, monohydrochloride (9CI) (CA INDEX NAME)

● HCl

ANSWER 9 OF 20 CAPLUS COPYRIGHT 2002 ACS

1988:204858 CAPLUS

DN 108:204858

TI Carbon-13 NMR spectroscopy of indole derivatives

AU Morales-Rios, M. S.; Espineira, J.; Joseph-Nathan, P.

CS Cent. Invest. Estud. Avanzados, Inst. Politec. Nac., Mexico City, 07000, Mex.

SO Magn. Reson. Chem. (1987), 25(5), 377-95 CODEN: MRCHEG; ISSN: 0749-1581

DT Journal

LA English

AB The chem. shifts of 298 naturally occurring and synthetic compds. contg. the indole chromophoric group are listed. Substituent effects on 13C chem. shifts (SCS) induced by substitution on the heteroarom. five-membered ring are discussed. The data provide a ref. set for future 13C NMR investigations and highlight the need for unambiguous exptl. evidence to resolve controversial assignments for differently substituted representative indole derivs. Many original assignments have been changed, and values not considered to be unambiguously assigned are delineated. The 1J(CH) values for the parent indole were measured.

IT 84732-47-8

RL: RCT (Reactant)
 (carbon-13 NMR chem. shifts of)

RN 84732-47-8 CAPLUS

CN 3,7-Secoervafoline, 14',15'-deepoxy-2,7,14',15'-tetradehydro-2,16-dihydro-, (16.alpha.)- (9CI) (CA INDEX NAME)

ΑÑ

8X ANSWER 10 OF 20 CAPLUS COPYRIGHT 2002 ACS

▶1984:526863 CAPLUS

DN 101:126863

TI Indole alkaloids from Stenosolen heterophyllus: tabernamine and isotabernamine

AU Kan, Christiane; Henriques, Amelia; Jasor, Yves; Moretti, Christian; Husson, Henri Philippe

CS Inst. Chim. Subst. Nat., CNRS, Gif-sur-Yvette, 91190, Fr.

SO J. Nat. Prod. (1984), 47(3), 478-81 CODEN: JNPRDF; ISSN: 0163-3864

DT Journal

LA French

AB Seventeen known indole alkaloids were isolated from S. heterophyllus (Apocynaceae). Spectral analyses and partial synthesis confirmed the previously proposed structure of tabernamine, a dimeric alkaloid of the voacamine type. Isotabernamine, an isomeric compd. at position C-10, was formed along with tabernamine in the condensation of vobasinol and ibogamine.

IT 70545-44-7 77784-39-5 77784-40-8 77794-87-7

RL: BIOL (Biological study)
 (from Stenosolen heterophyllus)

RN 70545-44-7 CAPLUS

CN 13a,20a,23-Metheno-8H,10H,23H-indolo[2''',3''':5'',6'']azocino[1'',2'':1', 5']pyrrolo[2',3':4,5]furo[2,3-m]oxireno[6,7]indolizino[8,1-cd]carbazole-19-carboxylic acid, 9b,21a-diethyl-5,6,8a,9a,9b,9c,10a,10b,12,13,18,20,21,21a-tetradecahydro-, methyl ester, (4bR,8aR,9aS,9bS,9cS,10aS,10bS,13aS,20aS,21aS,22aR,23S,24S)- (9CI) (CA INDEX NAME)

RN 77784-39-5 CAPLUS

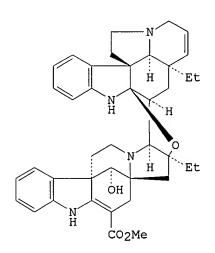
CN 14a,21a,24-Metheno-8H,11H,24H-indolizino[8,1-cd]indolo[2''',3''':5'',6'']a zocino[1'',2'':1',5']pyrrolo[2',3':4,5]furo[2,3-m]carbazole-20-carboxylic acid, 10a,22a-diethyl-5,6,10a,10b,11a,11b,13,14,19,21,22,22a-dodecahydro-, methyl ester, (4bR,10aR,10bS,11aS,11bS,14aS,21aS,22aS,23aR,25S)- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*
RN 77784-40-8 CAPLUS
CN Ervafoline, 19'-hydroxy- (9CI) (CA INDEX NAME)

RN 77794-87-7 CAPLUS
CN Ervafoline, 14',15'-deepoxy-14',15'-didehydro-19'-hydroxy- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

```
10/016,743
     ANSWER 11 OF 20 CAPLUS COPYRIGHT 2002 ACS
     1983:104293 CAPLUS
DN
     98:104293
     Bisindole alkaloids of Pandaca caducifolia
ΤI
ΑU
     Zeches, Monique; Lukacs, Gabor; Massiot, Georges; Le Men-Olivier,
     Louisette
CS
     Fac. Pharm., Reims, Fr.
     J. Nat. Prod. (1982), 45(6), 707-13
SO
     CODEN: JNPRDF; ISSN: 0163-3864
     Journal
DT
     English
LΑ
GI
```



(CA INDEX NAME)

Ι

methyl ester, (4bR,10aR,10bS,11aS,11bS,14aS,21aS,22aS,23aR,25S)- (9CI)

Two novel bisindole alkaloids were isolated from P. caducifolia,

AB

#### IT 76881-05-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, by ervafolene catalytic hydrogenation)

RN 76881-05-5 CAPLUS

CN 14a,21a,24-Metheno-8H,11H,24H-indolizino[8,1-cd]indolo[2''',3''':5'',6'']a zocino[1'',2'':1',5']pyrrolo[2',3':4,5]furo[2,3-m]carbazole-20-carboxylic acid, 10a,22a-diethyl-5,6,9,10,10a,10b,11a,11b,13,14,19,21,22,22a-tetradecahydro-, methyl ester, [10aS-(4bS\*,10a.alpha.,10b.alpha.,11a.alpha.,11b.beta.,14a.alpha.,21a.alpha.,22a.beta.,23aS\*,24.alpha.,25R\*)]- (9CI) (CA INDEX NAME)

#### \*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

IT 84732-47-8P 84732-48-9P

RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of, by ervafolene redn.)

RN 84732-47-8 CAPLUS

CN 3,7-Secoervafoline, 14',15'-deepoxy-2,7,14',15'-tetradehydro-2,16-dihydro-, (16.alpha.)- (9CI) (CA INDEX NAME)

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RN 84732-48-9 CAPLUS
CN Ervafoline, 14',15'-deepoxy-14',15'-didehydro-2,16-dihydro- (9CI) (CA INDEX NAME)
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\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

ANSWER 12 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1982:82682 CAPLUS

DN 96:82682

TI New dimeric indole alkaloids from Stenosolen heterophyllus: structure determinations and synthetic approach

AU Henriques, Amelia; Kan, Christiane; Chiaroni, Angele; Riche, Claude; Husson, Henri Philippe; Kan, Siew Kwong; Lounasmaa, Mauri

CS Inst. Chim. Subst. Nat., Gif-sur-Yvette, F-91190, Fr.

SO J. Org. Chem. (1982), 47(5), 803-11 CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

GI For diagram(s), see printed CA Issue.

AB Alkaloids of the ervafolidine family, ervafolidine (I), 3-epi-ervafolidine, 19'(R)-hydroxyervafolidine, and 19'-hydroxyepiervafolidine, were isolated from leaves of S. heterophyllus. Structures of these compds. and of 4 dimeric indole alkaloids of the ervafoline series were detd. by mass spectrometry, 1H NMR, 13C NMR, and x-ray crystallog. A biogenetic pathway to take into account the formation of these alkaloids, and a synthetic approach based on this proposal was developed for the ervafoline series.

IT 70545-44-7 77784-39-5 77784-40-8 77794-87-7

RL: BOC (Biological occurrence); BIOL (Biological study); OCCU (Occurrence)

(of Stenosolen heterophyllus)

RN 70545-44-7 CAPLUS

CN 13a,20a,23-Metheno-8H,10H,23H-indolo[2''',3''':5'',6'']azocino[1'',2'':1',5']pyrrolo[2',3':4,5]furo[2,3-m]oxireno[6,7]indolizino[8,1-cd]carbazole-19-carboxylic acid, 9b,21a-diethyl-5,6,8a,9a,9b,9c,10a,10b,12,13,18,20,21,21a-tetradecahydro-, methyl ester, (4bR,8aR,9aS,9bS,9cS,10aS,10bS,13aS,20aS,21aS,22aR,23S,24S)- (9CI) (CA INDEX NAME)

RN 77784-39-5 CAPLUS

CN 14a,21a,24-Metheno-8H,11H,24H-indolizino[8,1-cd]indolo[2''',3''':5'',6'']a

zocino[1'',2'':1',5']pyrrolo[2',3':4,5]furo[2,3-m]carbazole-20-carboxylic acid, 10a,22a-diethyl-5,6,10a,10b,11a,11b,13,14,19,21,22,22a-dodecahydro-, methyl ester, (4bR,10aR,10bS,11aS,11bS,14aS,21aS,22aS,23aR,25S)- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 77784-40-8 CAPLUS

CN Ervafoline, 19'-hydroxy- (9CI) (CA INDEX NAME)

RN 77794-87-7 CAPLUS

CN Ervafoline, 14',15'-deepoxy-14',15'-didehydro-19'-hydroxy- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

ANSWER 13 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1981:407560 CAPLUS

DN 95:7560

TI Determination of structures by proton NMR at 400 MHz: alkaloids of Stenosolen heterophyllus

AU Henriques, Amelia; Kan, Christiane; Husson, Henri Philippe; Kan, Siew-Kwong; Lounasmaa, Mauri

CS Inst. Chim. Subst. Nat., Gif-sur-Yvette, F-91190, Fr.

SO Acta Chem. Scand., Ser. B (1980), B34(7), 509-12 CODEN: ACBOCV; ISSN: 0302-4369

DT Journal

LA English

GI For diagram(s), see printed CA Issue.

AB The structures of three new dimeric indole alkaloids, 19'-hydroxyervafoline (I) ervafolene (II, R = H) and 19'-hydroxyervafolene II (R = HO), isolated from the leaves of Stenosolen heterophyllus, were detd. by their NMR spectra.

IT 77784-39-5 77784-40-8 77794-87-7

RL: RCT (Reactant)

(new alkaloid from Stenosolen, structure of, NMR in relation to)

RN 77784-39-5 CAPLUS

CN 14a,21a,24-Metheno-8H,11H,24H-indolizino[8,1-cd]indolo[2''',3''':5'',6'']a zocino[1'',2'':1',5']pyrrolo[2',3':4,5]furo[2,3-m]carbazole-20-carboxylic acid, 10a,22a-diethyl-5,6,10a,10b,11a,11b,13,14,19,21,22,22a-dodecahydro-, methyl ester, (4bR,10aR,10bS,11aS,11bS,14aS,21aS,22aS,23aR,25S)- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

RN 77784-40-8 CAPLUS

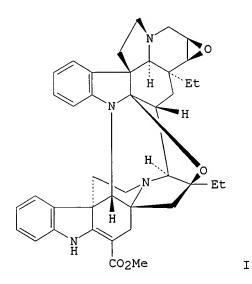
CN Ervafoline, 19'-hydroxy- (9CI) (CA INDEX NAME)

RN 77794-87-7 CAPLUS

CN Ervafoline, 14',15'-deepoxy-14',15'-didehydro-19'-hydroxy- (9CI) (CA INDEX NAME)

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

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10/016,743
    ANSWER 14 OF 20 CAPLUS COPYRIGHT 2002 ACS
AN
     1980:181449 CAPLUS
     92:181449
DN
    A 400 MHz proton NMR study of the dimeric indole alkaloid ervafoline
ΤI
    Henriques, Amelia; Kan, Siew-Kwong; Lounasmaa, Mauri
ΑU
     Inst. Chim. Subst. Nat., Gif-sur-Yvette, F-91190, Fr.
CS
    Acta Chem. Scand., Ser. B (1979), B33(10), 775-6
SO
     CODEN: ACBOCV; ISSN: 0302-4369
DT
     Journal
     English
LΑ
GΙ
```



AB Consecutive double resonance expts. were used to discover all 44 protons in the NMR of ervafoline (I).

IT 70545-44-7

TT 70545-44-7
RL: PRP (Properties)
(NMR of)
RN 70545-44-7 CAPLUS

CN 13a,20a,23-Metheno-8H,10H,23H-indolo[2''',3''':5'',6'']azocino[1'',2'':1',5']pyrrolo[2',3':4,5]furo[2,3-m]oxireno[6,7]indolizino[8,1-cd]carbazole-19-carboxylic acid, 9b,21a-diethyl-5,6,8a,9a,9b,9c,10a,10b,12,13,18,20,21,21a-tetradecahydro-, methyl ester, (4bR,8aR,9aS,9bS,9cS,10aS,10bS,13aS,20aS,21aS,22aR,23S,24S)- (9CI) (CA INDEX NAME)

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10/0/16,743
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ANSWER 15 OF 20 CAPLUS COPYRIGHT 2002 ACS

AN 1979:420842 CAPLUS

DN 91:20842

TI A new type of indolic alkaloid dimer. Structural study and x-ray analysis of ervafoline

AU Henriques, A.; Kan-Fan, C.; Ahond, A.; Riche, C.; Husson, H. P.

CS Inst. Chim. Subst. Nat., CNRS, Gif-sur-Yvette, Fr.

I

SO Tetrahedron Lett. (1978), (39), 3707-10 CODEN: TELEAY; ISSN: 0040-4039

DE James 1

DT Journal LA French

GΙ

AB The structure and abs. configuration of ervafoline (I), an indolic alkaloid dimer isolated from Stenosolen heterophyllus, was detd. from spectral data and by x-ray crystallog. anal. A biosynthetic scheme for the formation of I is reported.

IT 70545-44-7

RL: RCT (Reactant)

(of Stenosolen heterophyllus, crystal structure and abs. configuration of)

RN 70545-44-7 CAPLUS

CN 13a,20a,23-Metheno-8H,10H,23H-indolo[2''',3''':5'',6'']azocino[1'',2'':1', 5']pyrrolo[2',3':4,5]furo[2,3-m]oxireno[6,7]indolizino[8,1-cd]carbazole-19-carboxylic acid, 9b,21a-diethyl-5,6,8a,9a,9b,9c,10a,10b,12,13,18,20,21,21a-tetradecahydro-, methyl ester, (4bR,8aR,9aS,9bS,9cS,10aS,10bS,13aS,20aS,21aS,22aR,23S,24S)- (9CI) (CA INDEX NAME)

ANSWER 16 OF 20 CAPLUS COPYRIGHT 2002 ACS 1977:121311 CAPLUS DN 86:121311 Synthesis of 1,2,3,4,8,9,10,11-octahydro[1,4]diazepino[6,5,4-jk]carbazole ΤI and related compounds ΑU Kim, Dong Han Res. Div., Wyeth Lab., Inc., Philadelphia, Pa., USA CS J. Heterocycl. Chem. (1976), 13(6), 1187-92 SO CODEN: JHTCAD Journal DTEnglish LA GΙ

AB 1,2,3,4,8,9,10,11-Octahydro[1,4]diazepino[6,5,4-jk]carbazole (I, R = R1 = H) was prepd. from 2,3,4,5-tetrahydro-1H-benzodiazepine (II) via acetylation, nitrosation, redn., cyclization with cyclohexanone, and deacetylation. Similarly prepd. were I (R = C1, R1 = Ac; R = H, R1 = Me).

IT 57756-50-0P

57756-50-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and chlorination of)

RN 57756-50-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-ethyl-1,2,3,4,8,9,10,11-octahydro-(9CI) (CA INDEX NAME)

IT 57756-41-9P 57756-42-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and deacetylation of)

RN 57756-41-9 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4,8,9,10,11-octahydro-(9CI) (CA INDEX NAME)

RN 57756-42-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-6-chloro-1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

IT 57756-43-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and quaternization of)

RN 57756-43-1 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-3-methyl-(9CI) (CA INDEX NAME)

IT 57756-46-4P 57756-54-4P

RN 57756-46-4 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

RN 57756-54-4 CAPLUS

CN [1,4] Diazepino[6,7,1-jk] carbazole, 6-chloro-3-ethyl-1,2,3,4,8,9,10,11-

octahydro- (9CI) (CA INDEX NAME)

IT 57716-82-2P 57716-83-3P 57716-84-4P 57756-44-2P 57756-45-3P 57756-48-6P 57756-49-7P 57756-51-1P 57756-52-2P 57756-53-3P 61471-61-2P 62088-85-1P 62088-86-2P

RN 57716-82-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 6-chloro-3-ethyl-1,2,3,4,8,9,10,11-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

# ● HCl

RN 57716-83-3 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole-3(4H)-acetic acid, 1,2,8,9,10,11-hexahydro-, sodium salt (9CI) (CA INDEX NAME)

Na

RN 57716-84-4 CAPLUS CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2-dihydro- (9CI) (CA INDEX NAME)

RN 57756-44-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

RN 57756-45-3 CAPLUS CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

RN 57756-48-6 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4-tetrahydro-, sulfate (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 57756-47-5 CMF C15 H14 N2

CM 2

CRN 7664-93-9 CMF H2 O4 S

RN 57756-49-7 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4-tetrahydro-, monohydrochloride (9CI) (CA INDEX NAME)

### ● HCl

RN 57756-51-1 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-ethyl-1,2,3,4,8,9,10,11-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

RN 57756-52-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-ethyl-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

RN 57756-53-3 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-ethyl-1,2,3,4-tetrahydro-, monohydrochloride (9CI) (CA INDEX NAME)

#### HCl

RN 61471-61-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazolium, 1,2,3,4,8,9,10,11-octahydro-3,3-dimethyl-,iodide (9CI) (CA INDEX NAME)

# • 1-

RN 62088-85-1 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-3-(3,4,5-trimethoxybenzoyl)- (9CI) (CA INDEX NAME)

RN 62088-86-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole-3(4H)-acetonitrile, 1,2,8,9,10,11-hexahydro- (9CI) (CA INDEX NAME)

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10/016,743
     ANSWER 17 OF 20 CAPLUS COPYRIGHT 2002 ACS
     1977:114977 CAPLUS
AN
     86:114977
DN
     Derivatives of tetrahydro-1,4-benzodiazepines as potential
TТ
     antihypertensive agents
     Kim, Dong Han; Baum, Thomas
ΑU
    Med. Chem. Sect., Wyeth Lab., Inc., Philadelphia, Pa., USA
CS
SO
     J. Med. Chem. (1977), 20(2), 209-12
     CODEN: JMCMAR
     Journal
DT
     English
LΑ
GΙ
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V, RR1=CH<sub>2</sub>CH<sub>2</sub>, R<sup>2</sup>=R<sup>4</sup>=Me,  $R^{3}=X=Y=H$   $V, RR1=CH<sub>2</sub>CH<sub>2</sub>, R<sup>2</sup>=R<sup>4</sup>=Me,
<math display="block">R^{3}=X=Y=H$   $R^{3}=X=Y=H$ 

ΙI

AB Redn. of benzodiazepinedione derivs. followed by amidination with 1-amidino-3,5-dimethylpyrazole nitrate [38184-47-3] gave 3 amidino derivs. (I; R = H; R1 = H, Me; X = H, Cl), while reaction of the redn. products with MeI gave 6 quaternary salts (II; R = H; R1 = H, Me, Et; R2 = Me; R3 = H, Me; R4 = Me, Et; X = H, Cl, MeO; Y = H, MeO). Bridged analogs III [61471-57-6], IV [61471-59-8], V [61471-60-1], and VI [ 61471-61-2] were also prepd. In tests for antihypertensive activity in conscious rats 1,2,3,5-tetrahydro-4H-1,4-benzodiazepine-4-carboxamidine nitrate (I; R = R1 = X = H) [58483-85-5], its Me deriv. (I; R = X = H; R1 = Me) [58483-89-9], II(R = R1 = R3 = X = Y = H; R2 = R4 = Me) [57247-57-1], and V gave marked blood pressure lowering (>50 mm Hg) at oral doses of 75 mg/kg. Structure-activity relations and evidence linking activity to sympathetic nervous system impairment are discussed.

10/016,743

CM 1

CRN 61471-58-7 CMF C16 H20 N4

CM 2

CRN 7697-37-2 CMF H N O3

RN 61471-61-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazolium, 1,2,3,4,8,9,10,11-octahydro-3,3-dimethyl-, iodide (9CI) (CA INDEX NAME)

• I-

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10/0/16,743
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ANSWER 18 OF 20 CAPLUS COPYRIGHT 2002 ACS 1976:560051 CAPLUS DN 85:160051 Synthesis and properties of some tetracyclic derivatives of 9H-carbazole, TI10,11-dihydro-5H-dibenz[b,f]azepine, and 5,11dihydrodibenz[b,e][1,4]oxazepine Toscano, Luciano; Seghetti, Ennio; Fioriello, Giuseppe ΑU Dep. Synth. Chem. Res., Pierrel S.p.A., Milan, Italy CS J. Heterocycl. Chem. (1976), 13(3), 475-80 SO CODEN: JHTCAD DTJournal English LΑ GI

$$X^2$$
 $CH_2CH_2CO_2H$ 
 $XX^3$ 
 $CH_2)_{n-X^4}$ 
 $CH_2)_{n-X^4}$ 
 $CH_2)_{n-X^4}$ 
 $CH_2)_{n-X^4}$ 
 $CH_2)_{n-X^4}$ 
 $CH_2)_{n-X^4}$ 

III,  $X^3=CH_2$ , m=2IV,  $X^3=0$ , m=3

The tetracyclic heterocycles I [XX1 = -, X2 = (CH2)2; XX1 = X2 = (CH2)2; XX1 = CH2O, X2 = (CH2)3; XX1 = OCH2, X2 = (CH2)3], prepd. by cyclization of the carbazole II, dibenzazepine III, or dibenzoxazepine IV, were treated with polyphosphoric acid-NaN3 to give the lactams V (XX1 = -, X4 = NHCO, n = 2; XX1 = (CH2)2, X4 = NHCO, n = 2; XX1 = CH2O, X4 = CONH, n = 3; XX1 = OCH2, X4 = CONH, n = 3).

IT 60579-02-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and formylation of) RN 60579-02-4 CAPLUS

IT 59705-06-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and redn. of)

RN 59705-06-5 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazol-4(1H)-one, 2,3-dihydro- (9CI) (CA INDEX NAME)

IT 60579-06-8P 60579-08-0P

RN 60579-06-8 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole-3(4H)-carboxaldehyde, 1,2-dihydro- (9CI) (CA INDEX NAME)

RN 60579-08-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4-tetrahydro-3-methyl- (9CI) (CA INDEX NAME)

ANSWER 19 OF 20 CAPLUS COPYRIGHT 2002 ACS 1976:432967 CAPLUS 85:32967 DN Schmidt reaction of tetrahydroquinolone derivatives ΤI Haerter, H. P.; Stauss, U.; Osiecki, J. H.; Schindler, O. ΑU Forschungsinst., Wander A.-G., Bern, Switz. CS Chimia (1976), 30(2), 50-2 SO CODEN: CHIMAD DTJournal German LΑ GI

Diazepinones I [Z = O; R = H, Rl = H, Et, R2 = Me, R1R2 = (CH)4, CH:CHCCl:CH, (CH2)4; R = Cl, Rl = R2 = Me, R1R2 = (CH2)4] were obtained by Schmidt reaction of the tetrahydroquinolones II. Structure of I (Z = O) was confirmed by redn. to I (Z = H2). II were prepd. by treating III (R3 = H) with CH2:CHCN, ethanolysis of III (R3 = CH2CH2CN), hydrolysis of III (R3 = CH2CH2CO2Et), and cyclization of III (R3 = CH2CH2CO2H). Schmidt reaction of IV, similarly prepd. from phenanthridone, gave isomeric diazepinones V and VI.

IT 59705-06-5P 59705-07-6P 59705-08-7P 59705-09-8P

RN 59705-06-5 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazol-4(1H)-one, 2,3-dihydro- (9CI) (CA INDEX NAME)

RN 59705-07-6 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazol-4(1H)-one, 9-chloro-2,3-dihydro- (9CI) (CA INDEX NAME)

RN 59705-08-7 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazol-4(1H)-one, 2,3,8,9,10,11-hexahydro- (9CI) (CA INDEX NAME)

RN 59705-09-8 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazol-4(1H)-one, 6-chloro-2,3,8,9,10,11-hexahydro- (9CI) (CA INDEX NAME)

IT 57756-45-3P 57756-47-5P 59705-11-2P

59705-12-3P

RN 57756-45-3 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

RN 57756-47-5 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

RN 59705-11-2 CAPLUS

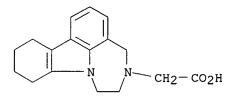
CN [1,4]Diazepino[6,7,1-jk]carbazole, 9-chloro-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

RN 59705-12-3 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 6-chloro-1,2,3,4,8,9,10,11-octahydro-(9CI) (CA INDEX NAME)

## 10/016,743

ANSWER 20 OF 20 CAPLUS COPYRIGHT 2002 ACS 1976:31150 CAPLUS DN 84:31150 TI1,4-Diazepino[6,5,4-jk]carbazoles Kim, Dong H. IN American Home Products Corp., USA PA SO U.S., 7 pp. CODEN: USXXAM DTPatent English LΑ FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE US 3914250 A 19751021 US 1974-493807 19740801 PΙ For diagram(s), see printed CA Issue. GΙ Anticonvulsant diazepinocarbazoles I-IV (R = H, Ac, Me, Et, CH2CO2Na; R = AΒ H, Cl) (11 compds.) were prepd. from benzodiazepine IV (R = H, Me, R1 = H, Cl). Thus, I(R = Ac, R1 = H), obtained from IV (R = R1 = H) via acetylation, nitrosation, redn. using Zn dust and HOAc, and then condensation with cyclohexanone, underwent deacetylation to I(R = R1 = H)and then N-alkylation with BrCH2CO2Et to give I(R = CH2CO2Na,R1 = H). Refluxing a xylane soln. of I(R = Ac, R1 = H) with Pd/C gave II, which was deacetylated to II(R = R1 = H) or was reduced with LiAlH4 to II(R = Et, R1 = H). III (R1 = H) was obtained from I(R= Ac, R1 = H) by successive redn. with LiAlH4 and then dehydrogenation using Pd/C. I(R = Ac, R1 = H) had an ED50 of 112 mg/kg against extensor seizures in mice. 57716-83-3P 57716-84-4P 57756-42-0P 57756-45-3P 57756-47-5P 57756-50-0P 57756-52-2P 57756-54-4P RL: BAC (Biological activity or effector, except adverse); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation) (prepn. and anticonvulsant activity of) 57716-83-3 CAPLUS RN [1,4] Diazepino [6,7,1-jk] carbazole-3 (4H) -acetic acid, 1,2,8,9,10,11-CN hexahydro-, sodium salt (9CI) (CA INDEX NAME)



Na

RN 57716-84-4 CAPLUS
CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2-dihydro- (9CI) (CA INDEX NAME)

RN 57756-42-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-6-chloro-1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

RN 57756-45-3 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

RN 57756-47-5 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

RN 57756-50-0 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-ethyl-1,2,3,4,8,9,10,11-octahydro-(9CI) (CA INDEX NAME)

RN 57756-52-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-ethyl-1,2,3,4-tetrahydro- (9CI) (CA INDEX NAME)

RN 57756-54-4 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 6-chloro-3-ethyl-1,2,3,4,8,9,10,11-octahydro- (9CI) (CA INDEX NAME)

IT 57716-82-2P 57756-43-1P 57756-44-2P

57756-48-6P 57756-49-7P 57756-51-1P

57756-53-3P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

RN 57716-82-2 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 6-chloro-3-ethyl-1,2,3,4,8,9,10,11-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

HCl

RN 57756-43-1 CAPLUS CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-3-methyl-(9CI) (CA INDEX NAME)

RN 57756-44-2 CAPLUS
CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4,8,9,10,11-octahydro-,
monohydrochloride (9CI) (CA INDEX NAME)

HCl

CRN 57756-47-5 CMF C15 H14 N2

10/016,743

CM 2

CRN 7664-93-9 CMF H2 O4 S

RN 57756-49-7 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 1,2,3,4-tetrahydro-, monohydrochloride (9CI) (CA INDEX NAME)

## ● HCl

RN 57756-51-1 CAPLUS

CN [1,4]Diazepino[6,7,1-jk]carbazole, 3-ethyl-1,2,3,4,8,9,10,11-octahydro-, monohydrochloride (9CI) (CA INDEX NAME)

HC1

57756-53-3 CAPLUS RN

[1,4]Diazepino[6,7,1-jk]carbazole, 3-ethyl-1,2,3,4-tetrahydro-, CNmonohydrochloride (9CI) (CA INDEX NAME)

HCl

IT 57756-41-9P 57756-46-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn., reaction, and anticonvulsant activity of) 57756-41-9 CAPLUS

RN

[1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4,8,9,10,11-octahydro-CN (9CI) (CA INDEX NAME)

RN 57756-46-4 CAPLUS

[1,4]Diazepino[6,7,1-jk]carbazole, 3-acetyl-1,2,3,4-tetrahydro- (9CI) (CA CN INDEX NAME)